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Journal of Advances in Medical Ethics

Commentary

Golden Standards for Cancer Pathology Practice

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DESCRIPTION

The pathologist has a lot of responsibility because the pathologic diagnosis of cancer is a crucial first step in patient management. The purpose is to identify flaws, discuss various diagnostic approaches, and list current alterations in diagnostic method usage. The significance of syndromic cancer recognition, cross-pathologist consultation, and interdisciplinary collaboration is underlined. Twenty recommendations and guidelines are provided in the hopes of reducing errors and ensuring proper diagnosis. With a suggested classification into four prognostic categories, recent 5-year survival data of various cancer locations are presented. With contemporary medicine, cancer can frequently be cured. The illustration of a plateau slope graph between five and twenty years following treatment serves as confirmation.

Correct diagnosis, successful therapy, proper follow-up, and productive research are the four objectives of oncology practice. Staff collaboration across disciplines is crucial to achieving these objectives. Since it determines the course of therapy, diagnosis must come before treatment. It has to be swift and exact. This enormous burden falls on the pathologist, who is required to diagnose the illness and forecast its biologic behaviour. The majority of the time, these diagnostic and prognostic obstacles are effectively met, but in a small number of problematic situations, challenges arise and mistakes are unavoidable.

The pathologist should have access to all relevant clinical information, such as the patient's age, the precise location of the specimen, the clinical diagnosis, the kind of surgery, and any prior biopsies or treatments. Consequently, it can be challenging to determine whether a new mass lesion is a recurrence or a new primary without looking back at earlier biopsies. Additionally, histopathologic research performed after therapy is typically unreliable.

Gross information on resected cancer specimens must include the presence of any cutaneous surgical wounds indicating prior lumpectomies, the longest diameter invasion of the muscle layer if the organ's capsule is intact or the tumour has penetrated it in the thyroid, kidney, and ovary, the number and size of regional lymph nodes, and the longest and shortest clearances of healthy tissue around the tumour in centimetres. Blocks parallel to or perpendicular to the surgical margin should be used to remove tissue for the evaluation of the surgical margin from the shortest clearance. Due to the limitations of immunohistochemistry, some markers' results can be unclear.

As a result, when morphologic type of tumours and immunophenotyping differ, the latter should prevail over typing based on histomorphologic characteristics. Unlike immunophenotyping, electron microscopic examinations are quite accurate and useful in the diagnosis of some challenging cases. For the following specific circumstances, PCR and FISH technologies are useful.

The genotyping and classification of hematolymphoid malignancies and solid tumours, the detection of minimal residual disease, the confirmation of syndromic cancer by identifying germline mutations, the detection of oncogenes important for targeted therapy (for example, the BCR-ABL1 mutation in CML, the PML-PARA fusion gene in premyelocytic leukaemia, the C-Kit in GIST, the Her-2 in breast cancer).

CONCLUSION

In cases of radical surgical resection, the histologic type of cancer, the grade of malignancy, the stage of cancer (preferably TNM if applicable, or other staging classification as FIGO, lymphoma, or paediatric systems), the status of regional lymph nodes indicating the number of positive lymph nodes and total nodes examined presence of any lymphangio-invasion, the status of surgical margin (negative, close, or positive for malignancy), and the grade of the surgery are all taken into consideration.

There are three classifications that can the overall therapeutic outcome, which is defined as substantial tumour necrosis, fibrosis, and the absence of any viable neoplastic cells, or no effect, which refers to the predominance of viable tumour cells.

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Received: 08-Sep-2022, Manuscript No. LDAME-22-20023; **Editor assigned:** 12-Sep-2022, PreQC No. LDAME-22-20023 (PQ); **Reviewed:** 03-Oct-2022, QC No. LDAME-22-20023; **Revised:** 10-Oct-2022, Manuscript No. LDAME-22-20023 (R); **Published:** 19-Oct-2022, DOI: 10.35248/2385-5495.22.8.019

Citation: Krestos J (2022) Golden Standards for Cancer Pathology Practice. Adv Med Ethics J. 08:019.